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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,925	10/28/2003	Hiroyuki Shindo	LEPA121823	7010

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EXAMINER

ALUNKAL, THOMAS D

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

81

Office Action Summary	Application No. 10/695,925	Applicant(s) SHINDO, HIROYUKI	
	Examiner Thomas D. Alunkal	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-6 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is indefinite whether applicant is disclosing both discs being irradiated at the same time. Applicant does not disclose a difference in the types of discs used. Furthermore, from both the specification and drawings, only one disc is being illustrated and discussed. Thus, for faster prosecution, from this point forward, it should be noted that **Claim 1** will be interpreted as irradiating only one disc.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1-6 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not mention the use of two separate discs. More specifically, the specification does not disclose how *both* first and second discs are irradiated. The specification only discloses recording and reproducing information on one disc as exemplified by **Figures 5-7**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Ogasawara et al. (**U.S. 6,859,429**) in view of Motegi et al. (**U.S. PgPub 2002/0036971**) and Ogasawara (**U.S. PgPub 2002/0105890**), as evidenced by Kan (**US PgPub 2005/0047310**).

Ogasawara et al. teaches an optical pick-up apparatus for recording and reproducing information (**see Column 2, lines 59-61**) comprising:

- a first liquid display for correcting spherical aberration by acting on first laser light (**see Abstract, Column 3, lines 47-58, and Figure 10**).
- a second liquid crystal display for correcting coma aberration by acting on the second laser light having polarization direction perpendicular to that of the first laser light (**see Column 3, lines 58-67, Column 4, lines 1-2, Figure 10, and Claim 6**). Applicant discloses two liquid crystal displays for correcting spherical and coma aberrations. However, there is no distinction made between the two liquid crystal displays. Both correct their respective aberrations by controlling the phase (**see Applicant Specification Page 8, line 33, and Page 9 line 1 and lines 26-27**), which was well known to one of ordinary skill in the art at the time

the invention was made, as evidenced by the prior art above. Thus, any two aberration correcting liquid crystal displays that change phase can be used to correct both the spherical and coma aberrations.

- an object lens (**see Column 5, lines 33-37 and Figure 10**)
- the first liquid crystal display and the second liquid crystal display are respectively formed on each surface of a first transparent substrate; the first liquid crystal display at least comprising a first transparent electrode, first orientation films, a liquid crystal and a second transparent electrode, which are inserted between a second transparent substrate and the first transparent substrate to correct spherical aberration (**see Column 5, lines 45-53, Column 8, lines 7-13, and Figures 3-4**)
- the second liquid crystal display is formed on a second surface of the first transparent substrate, the second liquid crystal display at least comprising a third transparent electrode, second orientation films, a liquid crystal and a fourth transparent electrode, which are inserted between a third transparent substrate and the first transparent substrate to correct coma aberration (**see Column 5, lines 45-53, Column 8, lines 7-13, and Figures 3-4**)
- the first and third transparent electrodes are each formed of a plurality of electrodes, one or more pairs of electrodes being electrically connected

to each other, one of the electrodes being the first transparent electrode, another of the electrodes being the third transparent electrode, and the second transparent electrode is electrically connected to the fourth transparent electrode (**see Column 5, lines 61-65**).

Ogasawara et al. does not teach wherein:

- the first and second liquid crystal displays and the object lens are movably supported
- the object lens and the first and second liquid crystal displays are movably supported by a plurality of suspension wires
- a drive voltage is supplied to the transparent electrodes through suspension wires

However, Ogasawara teaches wherein:

- the first and second liquid crystal displays and the object lens are movably supported (**see Paragraph 13 and Figures 1-2**). It is well known in the art for optical devices to be movably supported by drive devices. **Figures 1 and 2** illustrate the lens and aberration correcting unit being driven by a liquid crystal driver.
- the object lens and the first and second liquid crystal displays are movably supported by a plurality of suspension wires. It is well known in the art that these wires are used to support the optical device in an optical pick-up apparatus. Evidence to this is shown by Kan (**US PgPub 2005/0047310**) (**see Paragraph 11**). Kan clearly describes the need for

a plurality of suspension wire in movably supporting the lens and liquid crystal element in describing Ogasawara's prior art.

- a drive voltage is supplied to the transparent electrodes through suspension wires (**see Paragraph 36 and Figure 1**)

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the range of Ogasawara et al.'s teachings with Ogasawara's teachings. Both Ogasawara et al. and Ogasawara disclose aberration correcting units achieved by using liquid crystal displays. Both references have the same inventive concept, which is to correct aberration from laser light, which is to be incident upon a disc. Ogasawara teaches movably supporting the aberration correcting apparatus along the optical axis. As stated above, using a driver to move optical devices is commonly practiced in the art. As illustrated in **Figure 2, Element 14** of Ogasawara et al. and **Figure1, Element 35**, both teach liquid crystal drivers. The liquid crystal drivers have the same functionality. Thus, it is prima facie obvious that Ogasawara et al.'s object lens and liquid crystal displays can be movably supported via the same means as taught by Ogasawara, namely suspension wires, as further explained by Kan.

Ogasawara et al. does not teach wherein:

- using first and second laser lights both having a different band of wavelengths

However, Motegi et al. teaches:

- using first and second laser lights both having a different band of wavelengths (**see Figure 1, Elements 2 and 3, Paragraph 9 and 10**)

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the ranges of Ogasawara et al.'s and Ogasawara's teachings with Motegi et al.'s teachings. All three references disclose an optical pick-up apparatus. Motegi et al.'s teaching of using first and second laser lights having a band of wavelengths that differ from each other, which originate from two *different* sources is an obvious variant of using one laser since only one of the two laser lights will be irradiating one disc. Furthermore, Ogasawara et al.'s teaching of using two aberration correcting liquid crystal elements incorporates laser lights with different wavelengths since the second liquid crystal display having a polarization direction orthogonal to the first liquid crystal display can clearly be used to correct the aberration caused by the second laser light (**see Column 3, lines 58-67, Column 4, lines 1-2, Figure 10, and Claim 6**). Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Alunkal whose telephone number is (571)270-1127. The examiner can normally be reached on M-T 7:30-5:00, F 7:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on (571)272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2633

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Alunkal
Patent Examiner


Shanon Foley
Supervisory Patent Examiner